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A LARGE *TENTACULITES* FROM THE SHRIVER FORMATION (ORISKANY) OF PENNSYLVANIA

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The species of large *Tentaculites*, here described, occurs in a fauna recently added to the collections of The American Museum of Natural History from the Phillip's Clay Quarry, three miles southeast of Alexandria in Huntington County, Pennsylvania. The fossils occur in a soft, siliceous white clay member of the Shriver formation.

The most striking elements in the fauna are large trilobites referable to the genus *Dalmanites*. These will be discussed at a future time.

Other forms noted include:

Anoplotheca flabellites (Conrad)
Schuckertella becraftensis (Clarke)
Chonetes hudsonicus Clarke
Stropheodonta cf. *oriskania* Clarke
cf. *Diaphorostoma desmatum* Clarke

F. M. Swartz,[1] has made extensive studies of the stratigraphy of the Lower Devonian of West Virginia and Virginia, and has concluded (p. 48) "that the Shriver chert and the Becraft limestone of Maryland and the Virginias are at least essentially equivalent in time. As has been shown in the discussion of the Becraft, however, the limestones referred to that formation in Maryland and Virginia seem to range higher than the top of the type Becraft in New York, the upper portion probably being at least as young as the Port Ewen limestone of southeastern New York and New Jersey." Thus, the Shriver formation tends to straddle the boundary between the Helderberg and Oriskany groups of the New York section. On the basis of lithology, and of faunal affinities, it has been referred to the Oriskany group.

I take great pleasure in naming this species in honor of Dr. Chester A. Reeds, former Curator of the Department of Geology and Invertebrate Palaeontology of The American Museum of Natural History, who collected the specimens here described.

[1] 1929, U. S. Geol. Survey, Prof. Paper 158-c, pp. 25–75. See especially pp. 47–48.

Tentaculites reedsi, new species

Figures 1, 2, 3

HOLOTYPE.—A.M.N.H. No. 24981; length (incomplete) 35.5 mm.; greatest diameter 6.0 mm.; least diameter 4.4 mm.

PARATYPE.—A.M.N.H. No. 24982; length (incomplete) 49.0 mm.; greatest diameter (somewhat crushed) 5.6 mm.; least diameter 1.0 mm.

Three specimens are in the collection, two incomplete apically, but with the shell structure preserved; the third, an internal cast, somewhat crushed and fragmented, but complete almost to the apex. Together

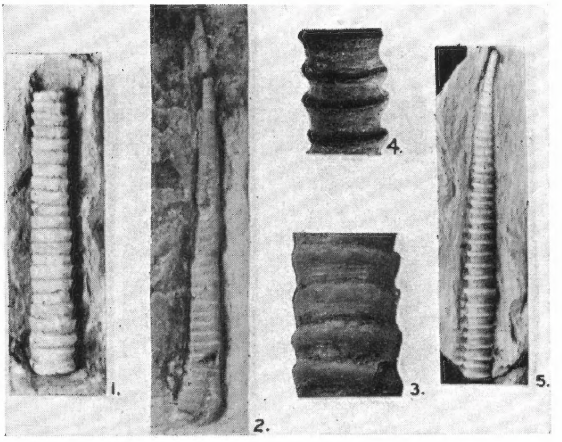

Fig. 1. *Tentaculites reedsi*, n. sp. Holotype, A.M.N.H. No. 24981 (× 1).

Fig. 2. *Tentaculites reedsi*, n. sp. Paratype, A.M.N.H. No. 24982 (× 1).

Fig. 3. *Tentaculites reedsi*, n. sp. Portion of surface of holotype enlarged (× 3).

Fig. 4. *Tentaculites elongatus* Hall. Syntype, A.M.N.H. No. 2590/3 (Hall collection). Portion of surface enlarged (× 3).

Fig. 5. *Tentaculites elongatus* Hall. Syntype, A.M.N.H. No. 2590/3 (Hall collection) (× 1). This is the specimen represented in Pl. VI, fig. 16 of Nat. Hist. N. Y., Palaeontology, III, 1859.

they indicate a length in excess of 70 mm. for this species. The shell is elongate, relatively thick, cylindrical in section and very gradually tapering to the apex, which may have been slightly curved. The surface is ornamented by strong annulations, which are sharply rounded apically, and slope inwardly toward the aperture giving the appearance of a series of invaginated cones. There are six such annulations within ten millimeters on the apertural portion of the holotype, and seven on the apical end. The presence of the annulations is well shown on the apertural por-

tion of the paratype, but tend to become sub-obsolete apically, that area of the cast being almost smooth. Annulations, however, appear to have been present, but were small and were closely approximate. On the sloping surfaces of the annulations are three to five, generally three, low rounded riblets. These do not appear to be simple growth lamellae, but seem to be definite features of ornamentation.

This species resembles *Tentaculites elongatus* Hall[1] in size and general appearance, but may be distinguished from that form by the details of the surface of the shell. The annulations on the latter species are sharply delimited aperturally as well as on the apical slope, forming relatively sharp ridges around the shell. As a result they tend to appear higher, more prominent, and more closely approximate. The whole surface of shell, both between and on the annulations, is marked by numerous fine, raised growth lamellae, and there is no evidence of any additional ornamentation.

ADDITIONAL NOTES ON *TENTACULITES ELONGATUS* HALL

There are three specimens of this species among the types in the Hall collection in The American Museum of Natural History. They are labeled by R. P. Whitfield, as representing figures 16, 17 and 20, and 21 of the original illustrations. The first two are correctly labeled; the latter does not appear to be that represented in figures 20 and 21. It is a more complete specimen with the shell preserved over much of the surface, and lacks the smooth apical area indicated in the figure. The specimen shown in figures 18 and 19 is in the collection of the New York State Museum at Albany (No. 5281/1). The specimen shown in figure 16 of Plate VI (A.M.N.H. No. 2590/3, Hall collection) is here figured (Figs. 4, 5). It is in a gray shaley limestone, and the label indicates that it came from "The Helderbergs." The other specimens are from Schoharie.

Figure 18, of the original illustrations, shows the anterior end to be lacking the shell. The outline of this area seems to have the same relative shape as the exterior, with sharp annulations and relatively parallel-sided inter-annulate areas. Figures 20 and 21, however, show an outline similar to that of paratype No. 24982, and the specimen there illustrated may well represent our species. However, Clarke in his memoir on 'The Oriskany fauna of Becraft Mountain, Columbia County, N. Y.'[2] shows specimens with an external outline and ornamentation of *T. elongatus*, and an internal cast with a shape suggestive of *T. reedsi*, and of Hall's figures 20 and 21.

[1] 1859, Nat. Hist. N. Y., Palæontology, III, p. 136, Pl. VI, figs. 16–21.
[2] N. Y. State Mus. Mem. 3, Pl. III, figs. 8–12. (See especially Fig. 9.)

T. arenosus Hall[1] is based on an internal cast with a similar outline. The original illustrations are quite defective, and an examination of the holotype (A.M.N.H., No. 2699/1) shows that the last six annulations possess the sharp outline of those of *T. elongatus*. On this basis, *T. arenosus* is here considered to be a synonym of the former species, as suggested by Hall in the original description.

[1] 1879, Nat. Hist. N. Y., Palaeontology, V, pt. 2, p. 166, Pl. xxxi, figs. 1, 2.